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ABSTRACT

An interstate cost-of-living index from SMSA-level market basket data is generated in this research. Models are developed for each of the four regions--Northwest, North Central, South, and West--to explain differences in the cost of living among more than 180 SMSAs. Weighted regression coefficients were combined with comparable state-level data to establish a state cost-of-living index. The index values were then normalized so that 100 represents the national average for all states weighted by their populations. Finally, the interstate cost-of-living index is used to calculate an adjusted average teacher salary for each state. The index is useful in comparing interstate expenditures on education, although it does not yield an estimate of real expenditures. A caution is that the index does not measure variations within individual states. Appendices include one figure, three tables, and a list of data sources. (9 references) (LMI)

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An Interstate Cost-0f-Living Index**

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Abstract

This research describes a simple way to generate an interstate cost-of-living index from SMSA-level market basket data. Models were developed for each of four regions to explain differences in the cost of living between more than 180 SMSA's. The regression coefficients are then used as weights and combined with comparable state level data to establish a state cost-of-living index. Finally, the state cost-of -living index values were normalized so that 100 represents the national average for all states weighted by their population. In the concluding section, the 1988-89 average teacher salary for each states is divided by the interstate cost-of-living index to calculate an adjusted average salary.

An Interstate Cost-0f-Living Index

I. Introduction and Background

Interstate comparisons of wages, revenues, and expenditures abound, particularly in the area of teacher salaries and educational spending. Such groups as the Advisory Commission on Intergovernmental Relations (1989), the U.S. Department of Education (1989), the National Education Association (1989), the American Federation of Teachers (Nelson, 1989) and the National Governor's Association (1989) have been making these comparisons for years. Despite obvious differences in the cost of living among states, no government agency regularly calculates either an interstate or interarea cost-of-living index. In 1978, the U.S. Bureau of Labor Statistics published an interarea index for 44 metropolitan areas and four national regions. The BLS no longer publishes its interarea cost-of-living index, although it calculates an individual CPI for each of 27 local areas and four regions.

McMahon and Melton (1978) produced the only existing interstate cost-of-living index more than a decade ago. Their index relied on the now discontinued interarea cost-of-living index for 44 metropolitan areas of the United States produced by the Bureau of Labor Statistics. Models for each of four regions were developed to explain differences in the cost of living between the 44 areas. Next, the regression coefficients were used as weights and combined with comparable state level data to establish a state cost-of-living index. The state cost of living indexes were then normalized so that 100 represented the national average for all states weighted by their population.

This research follows the McMahon-Melton approach but: 1) Benefits from the most recent data, 2) Utilizes the American Chamber of Commerce Researchers Association (ACCRA) inter-city cost of living index for nearly 200 metropolitan areas, and 3) Incorporates methodological improvements.

II. The Model and the Data

The demand for goods and housing, together with supplies which are are not perfectly elastic, largely determine differences in living costs (C)[1]. Demand is largely determined by individual's income (Y) and by population change (ΔP). As demand rises, the prices of land and any other goods for which supplies are not perfectly elastic also rise. The demand equation expresses quantity as a negative function of price ($a_1 < 0$), as a positive function of income ($a_2 > 0$), and as a positive function of the rate of growth in the population ($a_3 > 0$). The supply equation expresses price as a positive function of the quantity supplied ($a_4 > 0$) both in the short term and the long term (e.g., land costs are likely to be bid up permanently causing inelasticity in the supply of housing). Climatic differences also affect housing costs. Housing (V) is treated as a unique element of price inelasticity in supply. The following reduced form price equation results:

$$(1) \quad C = \frac{a_2\overline{q_1}}{1/a_4 - a_1} Y + \frac{a_3\overline{q_1}}{1/a_4 - a_1} \Delta P + \overline{q_2} V + u_1$$

where $\overline{q_1}$ is the standard market basket of goods and services other than housing, $\overline{q_2}$ is the standard market basket of housing required to maintain the same level of well-being in each area, and u_1 is the the disturbance term.

The following simplified model was estimated for each of four regions (23 SMSA's in the Northeast, 45 SMSA's in the North Central, 77 SMSA's in the South, and 35 SMSA's in the West):

$$(2) \quad C = \beta_0 + \beta_1 Y + \beta_2 \Delta P + \beta_3 V + u_2$$

Where C is the ACCRA inter-city cost-of-living index for early 1988, Y is personal income per capita in 1987, ΔP is the percent change in population from 1980 to 1987, and V is the median value of an owner-occupied house in 1980. Equation 3 replicates the McMahon-Melton model.

The appendix to this note describes data sources. The need for comparable data available at both the SMSA and state level limits potential sources of data. Housing value data provide the most problems with respect to this data limitation. The best available measure for V is confined to the decennial census.

Because the larger sample size enables the inclusion of more variables than the McMahon-Melton study, a second equation considered two additional variables.:

$$(3) \quad C = \beta_0 + \beta_1 Y + \beta_2 \Delta P + \beta_3 V + \beta_4 NV + \beta_5 D + u_3$$

Where D is the population density measured as the population per square mile in 1983, and NV represents the mean value of a new single family home in 1987 based on building permits authorizing construction.

Population density is a unique element of price inelasticity in supply. While D may lead to economies of scale in some services, it is expected that higher density generally leads to higher transportation, social services, police, fire, and sanitation costs. V and NV together represent an estimate of the standard market basket of housing. NV helps get a more recent estimate of housing value. NV differs from V because it estimates new housing costs only and does not include the value of land. Among all SMSA's, the correlation of V and NV is .56.

The latest government survey data on a mid-management executive family's pattern of expenditures for consumer goods and services provide the weights assigned to relative costs in the ACCRA index. Consequently, the interstate cost-of-living index developed below may not reflect interstate price levels as accurately for either poor families or the wealthy as it does for middle income families. Chamber of Commerce research personnel priced all items at the local level according to standard specifications. The housing component of the index is based on housing and neighborhoods suitable for a mid-management executive and is composed of three parts: 1) rental for an unfurnished two-

bedroom apartment, 2) purchase of a 1,800 square foot new house on a 10,000 square foot, fully developed lot, and 3) monthly payments for a 25-year mortgage on a 75 percent loan at current market rates. The index measures relative price levels in participating cities as compared with the national average of 100 for all of the nearly 300 participating cities.

Median house value (V) is defined as the respondent's estimate of what the house and lot would sell for if for sale. These housing data come from the 1980 census of housing and they represent the only direct measure of housing value on a state-by-state basis other than the value of new construction based on building permits. V is not a standard market basket of housing because it reflects construction differences influenced by climate and the income of the median homeowner. The building permit data for estimating the value of a new single family home (NV) also fails to measure a standard market basket of housing and differs from V by being eight years more recent. The problems with both V and NV are partly corrected by regional partitioning and the inclusion of an income measure.

The regions conform with the four used by the Bureau of Labor Statistics in calculating the current regional CPI except this study places Kentucky in the South and Northern Virginia in the Northeast. McMahon and Melton use the BLS regions. Partitioning by region takes advantage of the greater homogeneity within regions (e.g., climate, soil, terrain, economic condition and infrastructure, and transportation costs). Partitioning reduces the significance of the t-statistics by reducing the sample size, but partitioning increases the accuracy of of the predictions when comparing the actual and predicted index for each SMSA.[2]

Approximately one-third of SMSA's are not covered by the ACCRA index. The Northeast is under-represented in the ACCRA index (22 of approximately 41 SMSA's), while the South is over-represented (78 of approximately 112 SMSA's). The North Central region data had 45 of approximately 77 SMSA's, and the West had 33 observations among about 40 SMSA's. As shown below, the explanatory power of the estimates was the lowest in the two largest regions suggesting that the South and North Central could be

further divided.[3]

III. Estimation of the Model

The estimates for equation 2 presented in Table 1 use ordinary least squares regression.[4] Polynomial and logarithmic forms were tried, but none yielded better fits than the estimates in Table 2.

Insert Table 1 About Here

Income contributed to a higher cost of living at a statistically significant level in all regions. Only in the West was ΔP statistically significant. In the North Central region, higher population growth was associated with a lower cost of living but not at a statistically significant level. V was statistically significant in all regions (but only at the .10 level in the West) except the Northeast. The sign and statistical significance of the variables improve the McMahon and Melton estimates while the explained variation is lower. For the most part, the larger sample size in this study explains the differences.[5]

According to the criteria of sign and the statistical significance of individual variables, the results are satisfactory in the West and the South. Despite two significant variables in the South, however, the model explained only 34 percent of variation in the ACCRA index. The relatively high R^2 of .81 in the Northeast was obtained even though only Y was a statistically significant predictor. With 23 observations, the Northeast is both the smallest and most diverse of the regions. The ACCRA index ranged from 94 in Altoona, Pennsylvania and Syracuse, New York, to 145 in New York City and 149 in Boston. The 1980 data used to estimate V may be particularly problematic in the Northeast because the recent sharp economic recovery in much of the region exerted substantial upward pressure on housing prices. Between 1984 and 1987,

the housing component of the ACCRA index rose from 118 to 133 in Hartford, from 136 to 170 in Newark, from 165 to 210 in New York City, and from 80 to 97 in Syracuse (100 is the average for all cities in the ACCRA data base). The negative coefficient for ΔP may reflect population movement to low cost areas within the region.

The North Central region equation explained just 28 percent of the variation in the ACCRA index, but both Y and V had statistically significant coefficients with the correct sign. Unlike the Northeast, the ACCRA index varied relatively little among the 45 SMSA's in the North Central region with a standard deviation of just 5.7 (i.e., two-thirds of the cities had indexes between 93 and 104) compared to 16.9 in the Northeast, 8.7 in the West, and 4.8 in the South. The rapid loss of manufacturing jobs in high cost urban areas during the early 1980's in the North Central region may account for the negative coefficient for ΔP.

One important source of unexplained variation comes from the calculation of the ACCRA index itself. While following a standard set of instructions, data collection is carried out by different individuals in each city. Some cities report indexes that appear to be unusually high or unusually low for similar cities in the region. Rockford, Illinois, for example, reported an index of 106 to the ACCRA even though an index below 100 should be expected based on a comparison to similar cities in the region.

The estimates for equation 3, which include population density (D) and the mean value of a new single family home in 1987 (NV), are displayed in the bottom half of Table 1. D was statistically significant in all regions (only at the .10 level in the South) but the West. NV was statistically significant only in the West and NV had the wrong sign in the North Central region. R^2 improved from .28 to .43 in the North Central region, from .71 to .83 in the Northeast, and from .69 to .77 in the West. In the South, R^2 improved from .34 only to .37.

IV. Cost- of-Living Index

The regression coefficients from equations 2 and 3 for each region are

used as weights and combined with comparable state level data for Y, ΔP, V, NV, and D to obtain the predicted value for C at the state level. The state cost-of-living indexes then were normalized so that 100 in Table 2 represents the national average for all states weighted by their population. Table 2 also lists the comparable McMahon-Melton index.[6] The indexes exclude Hawaii and Alaska due to unique climate and transportation factors in these states. The Washington D.C. index uses SMSA values and should be interpreted as a metropolitan area index, not a city index.

Insert Table 2 About Here

In the equation 3 index calculation, the data for D were normalized to the SMSA average. Without this adjustment to D, the contribution of population density would be inappropriately low because the unweighted mean population density of the states is 172 persons per square mile compared to 371 among SMSA's in the data set.

The cost of living for the equation 2 index ranged from 88.7 in Idaho to to 129.1 in Connecticut. Five states had indexes below 90.0 and five states plus Washington D.C. had indexes above 110.0. The equation 3 index ranged from 90.3 for Idaho to 125.8 in both Connecticut and New Jersey. These index values are mapped out in Figure 1. The only states with equation 2 and equation 3 indexes differing by more than 3 percent are Connecticut, Nevada (falling by 4.2 points to 98.1 in the equation 3 index) , and Rhode Island (rising by 6.2 points to 106.8 in the Equation 3 index).

Insert Figure 1 About Here

Compared to the McMahon and Melton estimates of a decade earlier, the

equation 2 estimates show that the Northeast and the South are now relatively more expensive and the North Central and some Western states are less expensive. Massachusetts'relative cost of living rose about 10 percent higher by the late 1980's while the index increased by more than 5 percent in New Jersey, Connecticut, Texas, Oklahoma, and West Virginia. The index value decreased about 5 percent in Delaware, Illinois, Indiana, Michigan, Missouri, Montana, Nevada, New Mexico, Ohio, Oregon, Utah, Vermont, Washington and Wisconsin. These comparisons to the McMahon-Melton study are strictly speculative given the differences in data.

V. Teacher Salaries Adjusted by the Cost-of-Living Index

While the greatest variation in cost-of-living occurs within a state between rural and urban locations, a cost-of-living adjustment among states makes sense when states serve as the basis for comparing earnings. In Table 3, the 1988-89 average teacher salary for each states is divided by the interstate cost-of-living index to calculate an "adjusted average salary". Michigan, Alaska, California, Minnesota, Wisconsin and New York rank as the highest-paying states after adjusting for the cost of living. New York, Alaska and California, despite relatively high indexes, still list in the top 10. High-paying Connecticut, Massachusetts,the District of Columbia and New Jersey, however, drop substantially in the rankings. South Dakota, West Virginia, Arkansas, Louisiana and North Dakota remain at the bottom despite low cost of living. The rankings of most southern states improve when the cost-of-living variations is taken into account.

Insert Table 3 About Here

The adjusted average teacher salary, as determined by by the interstate

cost-of-living index, describes the relative purchasing power of the average teacher salary among the fifty states. This market basket cost-of living-index, however, does not necessarily determine a "cost" of equivalent workers among states. According to the hedonic wage theory (Rosen, 1974; Chambers, 1978) employers recruit workers for specific job assignments and individuals seek remuneration according to their perceptions of working conditions and the amenities and disamenities of where they must work and live. The hedonic wage theory is probably more critical to the comparison of local labor markets than to interstate wage comparisons. The average teacher salary in a particular state also depends on the experience level of the average teacher, which is influenced by enrollment trends, pay practices, and demography. The academic and credentaialling standards for entry to the professions, and a a variety of other supply and demand conditions also affect average teacher salaries.

VI. Discussion

This study described a simple way to generate an interstate cost-of-living index from SMSA-level market basket data on the cost of living. An interstate cost-of-living index adds perspective to interstate wage and salary comparisons.

The interstate cost-of-living index may be useful in comparing some types of expenditures among states. The U.S. Department of Education uses the consumer price index to determine real per pupil expenditures on education over time. By extension, the interstate cost-of-living index calculated in this study could be used to make interstate comparisons of resources expended on education. An interstate index could assist federal grant distribution decisions when equality of purchasing power for a standard market basket of consumer goods is a consideration. Such a cost-of living adjustments, however, would not yield an estimate of real resource usage among states. A cost-of-living index only adjusts for difference in the purchasing power of the typical consumer, which is strongly related to but not perfectly correlated with price trends for the array of goods and personnel services school districts purchase. This criticism also applies to the use of the CPI to determine real per pupil expenditures on

education over time.

One should not generalize from a state level index to specific localities. The cost of living varies as much within a state as between states The difference between Buffalo (100.5) and New York City (150.9) is greater than the difference between New York State and any other state. The cost-of-living index described in this article does not measure state wealth or state ability to pay, but cost of living should be considered in developing some of these measures.

Notes

1. The reader is referred to the original article for a detailed explanation of the model
2. McMahon and Melton claimed that partitioning reduces the statistical significance of the individual variables by reducing the sample size, but by controlling for regional variations, the explained variation improves. In regressions with 7 or 8 degrees of freedom, however, high explained variance is common. The McMahon-Melton estimates had R-squares of at least .87.
3. A separate regression for the South without the 21 Texas SMSA's yielded an R^2 of .47 for the equation 3 model compared to .37 with the Texas SMSA's in the estimates. The Texas-only regression had an R^2 of .37
4. McMahon and Melton claimed to have used the seemingly unrelated regression technique to take advantage of the intercorrelation of the error term in each regional equation. The author believes that this technique could not have been properly applied to these data because of unequal region sizes and because each SMSA was contained in only one region, not every region.
5. See footnote 2.
6. While McMahon and Melton intended to use a normalized index, the published index had 33 states with indexes above 100 including the most populous states. The McMahon index in Table 2 took the published index and normalized the index values to 100.

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Appendix
Data Sources

1. SMSA Cost-of -Living Index (C), 1988, 100 equals the average index of participating cities.
   Source: American Chamber of Commerce Researchers Association. Inter-city cost of living index (second and third quarter 1988 indexes). Louisville, KY:ACCRA.

2. Per Capita Personal Income (Y), 1987.
   Sources: U.S. Bureau of Economic Analysis (1989). County and metropolitan area personal Income, 1985-87. Survey of Current Business April , 42-43 for SMSA data and 63-67 for state data.

3. Population Change (ΔP), 1980 to 1987, as a percent of 1980 population.
   Sources: U.S. Bureau of the Census (1989). Current population reports (Series P-26 for SMSA data, and Series P-25 for state data).

4. Median Home Value (V), 1980.
   Source: U.S. Bureau of the Census (1986). State and metropolitan area data book, 1986. Washington, DC: U.S. Government Printing Office.

5. New Home Value (NV), 1987.
   Source: U.S. Bureau of the Census . Housing units authorized by building permits: Annual 1987 (Current Construction Reports, CAO-87-13).

6. Population Density (D), 1983, persons per square mile.
   Source: U.S. Bureau of the Census (1986). State and metropolitan area data book, 1986. Washington, DC: U.S. Government Printing Office.

TABLE 1

ESTIMATION RESULTS OF ACCRA COST-OF-LIVING INDEX, 1988

Region	Constant	Per Capita Income Y	Population Change ΔP	Median Home Value V	New Home Value NV	Population Density D	n	R-square
Units		$1,000	%	$1,000	$1,000	$100		
Mean (SMSA's)		13.64	9.30%	46.302	69.72	371	181	
Northeast	19.35	6.13	-0.58	0.03			23	0.71
		(2.89)	(1.16)	(0.06)				
North Central	71.93	1.05	-0.21	0.28			45	0.28
		(1.90)	(1.30)	(2.56)				
South	81.90	0.64	0.03	0.19			77	0.34
		(2.21)	(0.94)	(2.33)				
West	65.10	1.61	0.21	0.16			35	0.69
		(3.23)	(2.10)	(1.69)				
Northeast	32.06	4.72	-0.14	-0.15	0.13	0.44	23	0.83
		(2.54)	(0.32)	(0.42)	(1.04)	(3.20)		
North Central	82.54	0.87	-0.10	0.19	-0.08	0.55	45	0.43
		(1.69)	(0.68)	(1.65)	(1.26)	(3.13)		
South	82.74	0.61	0.03	0.13	0.00	0.61	77	0.37
		(1.86)	(1.10)	(1.50)	(0.17)	(1.77)		
West	65.23	1.24	0.29	0.00	0.20	0.00	35	0.77
		(2.52)	(2.98)	(0.04)	(3.28)	(0.01)		

Note: T-statistics are shown in parentheses. States included in each region are:

Northeast: Connecticut, District of Columbia, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvannia, Rhode Isalnd, Vermont, Northern Virginia.

North Central: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.

South: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.

West: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Wyoming.

TABLE 2

DIFFERENCES IN THE COST OF LIVING AMONG STATES
(Average Weighted by Population = 100.0)

	Eq. 2	Eq. 3	McMahon		Eq. 2	Eq. 3	McMahon
Alabama	91.4	91.9	87.8	Nebraska	92.1	92.9	96.0
Arizona	97.8	100.8	99.9	Nevada	102.3	98.1	107.7
Arkansas	90.7	90.9	86.1	New Hampshire	106.3	107.9	107.4
California	105.5	105.9	108.6	New Jersey	124.4	125.8	117.5
Colorado	99.5	99.8	101.3	New Mexico	90.7	92.9	95.8
Connecticut	129.1	125.8	121.1	New York	114.5	113.2	111.3
Delaware	103.9	103.2	111.9	North Carolina	92.6	93.6	89.0
D.C. (SMSA)	128.0	121.0	105.4	North Dakota	92.1	92.2	98.1
Florida	95.9	97.3	92.9	Ohio	94.7	95.8	100.8
Georgia	93.4	94.1	91.2	Oklahoma	92.4	92.5	86.4
Idaho	88.7	91.3	97.1	Oregon	93.4	94.2	98.8
Illinois	98.4	97.4	103.8	Pennsylvania	100.5	101.3	95.9
Indiana	91.7	92.9	97.0	Rhode Island	100.6	106.8	104.3
Iowa	93.3	93.6	96.3	South Carolina	91.7	92.6	89.1
Kansas	92.5	91.7	94.5	South Dakota	89.8	91.6	94.5
Kentucky	91.4	92.1	95.3	Tennessee	92.1	93.1	88.3
Louisiana	93.1	93.4	90.8	Texas	94.0	94.1	88.1
Maine	89.9	92.0	92.5	Utah	92.2	92.9	99.6
Maryland	112.3	110.8	114.1	Vermont	91.3	93.9	102.0
Massachusetts	118.9	121.8	108.5	Virginia	96.6	97.1	94.5
Michigan	94.2	95.4	101.5	Washington	97.5	97.0	102.9
Minnesota	97.6	95.6	101.6	West Virginia	91.7	91.9	85.9
Mississippi	89.9	90.3	86.3	Wisconsin	95.3	95.4	100.5
Missouri	91.9	92.9	97.2	Wyoming	93.9	93.4	98.9
Montana	89.3	91.1	97.4				

Note: Alaska and Hawaii are exluded because of unique factors involving climate and transportation.

TABLE 3

AVERAGE TEACHER SALARY ADJUSTED BY
THE INTERSTATE COST-OF-LIVING INDEX

State	Average Salary	Cost of Living Index	Adjusted Average Salary	Adjusted Rank	Original Rank
Michigan	$35,530	95.4	$37,247	1	4
California	35,172	105.9	33,220	2	5
Minnesota	31,395	95.6	32,849	3	11
Wisconsin	31,046	95.4	32,530	4	14
New York	36,654	113.2	32,369	5	3
Rhode Island	34,234	106.8	32,067	6	6
Illinois	31,195	97.4	32,038	7	13
Indiana	29,169	92.9	31,396	8	17
Oregon	29,385	94.2	31,186	9	16
Pennsylvania	31,248	101.3	30,835	10	12
Maryland	33,900	110.8	30,609	11	7
Delaware	31,585	103.2	30,595	12	10
Ohio	29,166	95.8	30,441	13	18
Washington	29,146	97.0	30,062	14	19
Connecticut	37,659	125.8	29,947	15	1
Virginia	29,056	97.1	29,930	16	20
Wyoming	27,689	93.4	29,650	17	23
Colorado	29,557	99.8	29,612	18	15
Nevada	28,836	98.1	29,406	19	21
Georgia	26,920	94.1	28,605	20	25
Vermont	26,819	93.9	28,565	21	26
D.C.	36,787	129.8	28,341	22	2
Kansas	25,992	91.7	28,330	23	29
Arizona	28,499	100.8	28,272	24	22
Texas	26,513	94.1	28,168	25	28
Missouri	25,981	92.9	27,974	26	30
Florida	26,937	97.3	27,671	27	24
Iowa	25,884	93.6	27,662	28	31
Tennessee	25,619	93.1	27,530	29	33
Alabama	25,190	91.9	27,420	30	34
North Carolina	25,650	93.6	27,410	31	32
Maine	24,938	92.0	27,116	32	36
South Carolina	25,060	92.6	27,063	33	35
Kentucky	24,920	92.1	27,053	34	37
Montana	24,421	91.1	26,793	35	39
Massachusetts	32,200	121.8	26,430	36	9
New Mexico	24,554	92.9	26,416	37	38
New Jersey	32,862	125.8	26,121	38	8
Nebraska	23,845	92.9	25,659	39	40
Oklahoma	23,400	92.5	25,304	40	41
Mississippi	22,579	90.3	25,000	41	44
Idaho	22,732	91.3	24,903	42	43
Utah	23,023	92.9	24,779	43	42
New Hampshire	26,703	107.9	24,753	44	27
North Dakota	22,249	92.2	24,138	45	46
Louisiana	22,469	93.4	24,063	46	45
Arkansas	21,736	90.9	23,901	47	48
West Virginia	21,904	91.9	23,831	48	47
South Dakota	20,525	91.6	22,408	49	49
U.S. AVERAGE	$29,614	100.0	$29,614		

Note: Average teacher salary data are from "Survey and Analysis of Salary Trends, 1989", American Federation of Teachers.

Figure 1

Interstate Cost-of-Living Index